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Attorney's Docket No.: 42P8931C

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:
Sujat Jamil et al.

Examiner: Verbrugge, K.

Application No. 10/620,629

Art Unit: 2188

Filed: July 15, 2003

CERTIFICATE OF TRANSMISSION

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Sir:

Enclosed is a copy of Information Disclosure Citation Form PTO-1449
together with copies of the documents cited on that form. It is respectfully
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Information Disclosure Citation Form PTO-1449 be initialed by the Examiner to
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Pursuant to 37 C.F.R. § 1.97, the submission of this Information Disclosure Statement is not to be construed as a representation that a search has been made and is not to be construed as an admission that the information cited in this statement is material to patentability.

Pursuant to 37 C.F.R. § 1.97, this Information Disclosure Statement is being submitted under one of the following (as indicated by an "X" to the left of the appropriate paragraph):


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If there are any additional charges, please charge Deposit Account No.
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Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: 11-30-04


Lawrence M. Mennemeier
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(408) 720-8598

Substitute for Form 1449A/PTO (Modified) (use as many sheets as necessary)	Attorney Docket No.: 042P8931C	Application Number: 10/620,629
Sheet 2 of 4	First Named Inventor: Sujat Jamil	Examiner Verbrugge, K.
	Filing Date: July 15, 2003	Art Unit: 2188

OTHER ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	Translation ²
	A08	AGARWAL, A., et al., "The MIT Alewife Machine: A Large-Scale Distributed-memory Multiprocessor," <i>Technical Report MIT/LCS Memo TM-454, Laboratory for Computer Science, Massachusetts Institute of Technology</i> , 1991.	
	A19	ANDERSON, C., et al., "A Multi-Level Hierarchical Cache Coherence Protocol for Multiprocessors," <i>University of Washington</i> , 1992, 92-10-04	
	A18	ANDERSON, C., et al., "Design and Evaluation of a Subblock Cache Coherence Protocol for Bus-Based Multiprocessors," <i>University of Washington</i> , 1994, 94-05-02	
	A09	BIANCHI, R., et al., "Memory Contention in Scalable Cache-coherent Multiprocessors," <i>Technical Report 448, Computer Science Department, University of Rochester</i> , 1993.	
	B01	CENSIER, L.M., et al., "A New Solution to Coherence Problems in Multicache Systems," <i>IEEE Transactions on Computers</i> , Vol. C-27, No. 12, December, 1978, 7 pages	
	A20	CHAIKEN, D., et al., "LimitLESS Directories: A Scalable Cache Coherence Scheme," <i>Proceedings of the 4th Int'l Conference on ASPLOS</i> , pages 224-234, New York, April 1991.	
	A22	EGGERS, S.J., et al., "A Characterization of Sharing in Parallel Programs and Its Application to Coherency Protocol Evaluation," <i>Proceedings of the 15th Annual International Symposium on Computer Architecture</i> , May 1988.	
	A10	FARKAS, K., "Cache Consistency in Hierarchical-ring-based Multiprocessors," <i>Technical Report CSRI-273, Computer Systems Research Institute, University of Toronto, Ontario, Canada</i> , January 1993.	
	A11	FLEISCH, B., "A Coherent Distributed Shared Memory Design," <i>Proceedings from the 14th ACM Symposium on Operating System Principles</i> , pages 211-223, New York, 1989.	

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Substitute for Form 1449A/PTO (Modified) (use as many sheets as necessary)		Attorney Docket No.: 042P8931C	Application Number: 10/620,629
Sheet 3 of 4		First Named Inventor: Sujat Jamil	Examiner Verbrugge, K.
		Filing Date: July 15, 2003	Art Unit: 2188
OTHER ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	Translation ²
	A06	GHARACHORLOO, K., et al., "Memory Consistency and Event Ordering in Scalable Shared-Memory Multiprocessors," <i>Proceedings of the 17th International Symposium on Computer Architecture</i> , pages 15-26, May 1990.	
	A05	GHARACHORLOO, K., et al., "Performance Evaluation of Memory Consistency Models for Shared-Memory Multiprocessors," <i>Proceedings of Fourth International Conference on Architectural Support for Programming Languages and Operating Systems</i> , pages 245-257, 1991.	
	A03	IEEE Std 1596-1992. "Scalable Coherent Interface," Piscataway, NJ.	
	A04	JOHNSON, R.E., "Extending the Scalable Coherent Interface for Large-Scale Shared-Memory Multiprocessors," <i>PhD Thesis, University of Wisconsin-Madison</i> , 1993.	
	A23	LENOSKI, D., et al., "The Directory-based Cache Coherence Protocol for the Dash Multiprocessor," <i>Proceedings of the 17th Int'l Symposium on Computer Architecture</i> , Los Alamitos, Calif., May 1990.	
	A13	LI, K., et al., "Memory Coherence in Shared Virtual Memory Systems," <i>ACM Transactions On Computer Systems</i> , 7(4):321-359, November 1989.	
	A14	LI, Q., et al., "Redundant Linked List based Cache Coherence Protocol," <i>World Computer Congress, IFIP Congress</i> , 1994.	
	A01	LILJA, D. J., "Cache Coherence in Large-Scale Shared-Memory Multiprocessors: Issues and Comparisons", <i>ACM Computing Surveys</i> , 25(3), September 1993	
	A15	MELLOR-CRUMMEY, J.M., et al., "Algorithms for Scalable Synchronization on Shared-memory Multiprocessors," <i>ACM Transactions on Computer Systems</i> , 9(1), Feb 1991.	
	A12	MORI, S., et al., "A Distributed Shared Memory Multiprocessor: ASURA - Memory and Cache Architectures," <i>Supercomputing '93</i> , pages 740-749, Portland, Oregon, November 1993.	

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Substitute for Form 1449A/PTO (Modified) (use as many sheets as necessary)		Attorney Docket No.: 042P8931C	Application Number: 10/620,629
Sheet 4 of 4		First Named Inventor: Sujat Jamil	Examiner Verbrugge, K.
		Filing Date: July 15, 2003	Art Unit: 2188
OTHER ART - NON PATENT LITERATURE DOCUMENTS			
	A16	NILSSON, H., et al., "The Scalable Tree Protocol - a Cache Coherence Approach to Large-scale Multiprocessors," <i>Proceedings of the 4th IEEE Symposium on Parallel and Distributed Processing</i> , May 1992.	
	A24	NITZBERG, B., et al., "Distributed Shared Memory: A Survey of Issues and Algorithms," <i>IEEE Computer</i> , pages 52-60, August 1991.	
	A02	PAPAMARCOS, M., et al., "A Low-Overhead Coherence Solution for Multiprocessors with Private Cache Memories," <i>Proc. 11th ISCA</i> , 1984, pp. 348-354.	
	B03	PCT International Search Report, PCT/US01/30359, mailed 10/08/2002, 5 pages	
	B02	PONG, F., et al., "Correctness of a Directory-Based Cache Coherence Protocol: Early Experience," <i>IEEE</i> , 1993, pp. 37-44	
	A21	SANDHU, H.S., et al., "The Shared Regions Approach to Software Cache Coherence on Multiprocessors," <i>Proceedings of the 4th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming</i> , May 1993.	
	A07	SCHEURICH, C., et al., "Correct Memory Operation of Cache-Based Multiprocessors," <i>Proceedings 14th Annual International Symposium on Computer Architecture</i> , pages 234-243, Pittsburgh, PA, June 1987.	
	A25	STUMM, M., et al., "Algorithms Implementing Distributed Shared Memory," <i>Computer</i> , 23(5):54-64, May 1990.	
	A17	TANG, C.K., "Cache System Design in the Tightly Coupled Multiprocessor System," <i>AFIPS Proceedings of the National Computer Conference</i> , 1976.	
	A27	THAKKAR, S., et al., "Scalable Shared-Memory Multiprocessor Architectures," <i>IEEE Computer</i> , 23(6), June 1990.	
	A26	THAPAR, M., et al., "Stanford Distributed Directory Protocol," <i>IEEE Computer</i> , pages 78-80, June 1990.	
	C01	Patent Act 1977: Examination Report under section 18(3), Application No: GB0309110.5 (International App. No. PCT/US01/30359), July 7, 2004	
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Form PTO-1449 (Modified)		Atty Docket No.: 042390.P883		Serial No.: 09/677,122			
List of Patents and Publications Statement (Use several sheets if necessary) Page 1 of 2				Applicant: Sujat Jamil, et al.			
				Filing Date: 09/29/2000			
REFERENCE DESIGNATION				U.S. PATENT DOCUMENTS			
Examiner Initials		Document No.		Class	Sub- Class	Filing date if appropriate	
	AA						
	AB						
	AC						
	AD						
	AE						
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FOREIGN PATENT DOCUMENTS							
No.		Document No.	Date	Country	Class	Sub-Class	Trans- lation
	AQ						
	AR						
	AS						
	AT						
	AU						
OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)							
KU	A01	Lilja, D. J.. Cache Coherence in Large-Scale Shared-Memory Multiprocessors: Issues and Comparisons, ACM Computing Surveys, 25(3), September 1993					
KU	A02	M. Papamarcos and J. Patel, "A Low-Overhead Coherence Solution for Multiprocessors with Private Cache Memories," Proc. 11th ISCA, 1984 pp. 348-354.					
KU	A03	IEEE Std 1596-1992. <i>Scalable Coherent Interface</i> . Piscataway, NJ.					
KU	A04	R.E. Johnson. <i>Extending the Scalable Coherent Interface for Large-Scale Shared-Memory Multiprocessors</i> . PhD thesis, University of Wisconsin-Madison, 1993.					
KU	A05	Kourosh Gharachorloo, Anoop Gupta, and John Hennessy. Performance Evaluation of Memory Consistency Models for Shared-Memory Multiprocessors. In <i>Proceedings of Fourth International Conference on Architectural Support for Programming Languages and Operating Systems</i> , pages 245-257, 1991.					
KU	A06	Kourosh Gharachorloo, Daniel Lenoski, James Laudon, Phillip Gibbons, Anoop Gupta, and John Hennessy. Memory Consistency and Event Ordering in Scalable Shared-Memory Multiprocessors. In <i>Proceedings of the 17th International Symposium on Computer Architecture</i> , pages 15-26, May 1990.					
KU	A07	Christoph Scheurich and Michel Dubois. Correct Memory Operation of Cache-Based Multiprocessors. In <i>Proceedings 14th Annual International Symposium on Computer Architecture</i> , pages 234-243, Pittsburgh, PA, June 1987.					

	A08	A. Agarwal, D. Chaiken, G. D'Souza, et al. The MIT Alewife machine: A large-scale distributed-memory multiprocessor. Technical Report MIT/LCS Memo TM-454, Laboratory for Computer Science, Massachusetts Institute of Technology, 1991.
	A09	R. Bianchini, M. E. Crovella, L. Kontothanassis, and T. J. LeBlanc. Memory contention in scalable cache-coherent multiprocessors. Technical Report 448, Computer Science Department, University of Rochester, 1993. <i>Title Page missing</i>
	A10	K. Farkas, Z. Vranesic, and M. Stumm. Cache consistency in hierarchical-ring-based multiprocessors. Tech. Rep. CSRI-273, Computer Systems Research Institute, Univ. of Toronto, Ontario, Canada, January 1993.
	A11	B. Fleisch and G. Popek. Mirage: A coherent distributed shared memory design. In <i>Proceedings from the 14th ACM Symposium on Operating System Principles</i> , pages 211-223, New York, 1989.
	A12	S. Mori, H. Saito, M. Goshima, et al. A distributed shared memory multiprocessor: ASURA - memory and cache architectures -. In <i>Supercomputing '93</i> , pages 740-749, Portland, Oregon, November 1993.
	A13	K. Li and P. Hudak. Memory coherence in shared virtual memory systems. <i>ACM Transactions in Computer Systems</i> , 7(4):321-359, November 1989.
	A14	Q. Li and S. Vlaovic. Redundant linked list based cache coherence protocol. In <i>World Computer Congress, IFIP Congress</i> , 1994.
	A15	John M. Mellor-Crummey and Michael L. Scott. Algorithms for scalable synchronization on shared-memory multiprocessors. <i>ACM Trans. on Computer Systems</i> , 9(1), Feb 1991.
	A16	H. Nilsson and P. Stenstrom. The scalable tree protocol - a cache coherence approach to large-scale multiprocessors. In <i>Proceedings of the 4th IEEE Symposium on Parallel and Distributed Processing</i> , May 1992.
	A17	C.K. Tang. Cache system design in the tightly coupled multiprocessor system. In <i>AFIPS Proceedings of the National Computer Conference</i> , 1976.
	A18	Craig Anderson and Jean-Loup Baer. Design and Evaluation of a Subblock Cache Coherence Protocol for Bus-Based Multiprocessors. University of Washington, 1994, 94-05-02
	A19	Anderson, C. and J.-L. Baer. A Multi-Level Hierarchical Cache Coherence Protocol for Multiprocessors. University of Washington", 1992, 92-10-04
	A20	D. Chaiken, J. Kubiawicz, and A. Agarwal. LimitLESS directories: A scalable cache coherence scheme. In <i>Proc. of the Fourth Int'l Conf. on ASPLOS</i> , pages 224-234, New York, April 1991.
	A21	H. S. Sandhu, B. Gamsa, and S. Zhou. The shared regions approach to software cache coherence on multiprocessors. In <i>Proc. of the 4th ACM SIGPLAN Symp. on Principles and Practice of Parallel Programming</i> , May 1993.
	A22	S.J. Eggers and R.H. Katz. A characterization of sharing in parallel programs and its application to coherency protocol evaluation. In <i>Proceedings of the 15th Annual International Symposium on Computer Architecture</i> , May 1988.
	A23	D. Lenoski et al. The directory-based cache coherence protocol for the dash multiprocessor. In <i>Proc. 17th Int'l Symp. Computer Architecture</i> , Los Alamitos, Calif., May 1990.
	A24	Bill Nitzberg and Virginia Lo. Distributed shared memory: A survey of issues and algorithms. <i>IEEE Computer</i> , pages 52-60, August 1991.
	A25	M. Stumm and S. Zhou. Algorithms implementing distributed shared memory. <i>Computer</i> , 23(5):54-64, May 1990.
	A26	M. Thapar and B. Delagi. Stanford distributed directory protocol. <i>IEEE Computer</i> , pages 78-80, June 1990.
	A27	Shreekant Thakkar, Michel Dubios, Anthony T. Laundrie, and Gurindar S. Sohi. Scalable Shared-Memory Multiprocessor Architectures. <i>IEEE Computer</i> , 23(6), June 1990.
	Examiner <i>Kevin Verbringer</i> Date Considered <i>12/20/02</i>	
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Substitute for form 1449A/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	09/677,122
		Filing Date	September 29, 2000
		First Named Inventor	Sujat Jamil
		Art Unit	2185-2153
		Examiner Name	Kevin Verbeke
Sheet 1 of 2	Attorney Docket Number	42390P8931	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.	Document Number Number - Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-5,680,576	10-21-1997	Laudon	
		US-			
		US-			
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FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No.	Foreign Patent Document Country Code ² - Number ² - Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		EP 0 397 994 A2	11-22-1990	International Business Machines Corporation	

Examiner Signature	Kevin Verbeke	Date Considered	4/30/03
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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Complete If Known	
	Application Number	09/677,122
	Filing Date	September 29, 2000
	First Named Inventor	Sujat Jamil
	Art Unit	2185-2188
	Examiner Name	Kevin VanBongbe
Sheet 2 of 2	Attorney Docket Number	42390P8931

OTHER ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.†	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
KV	301	CENSIER, L. M., et al., "A New Solution to Coherence Problems in Multicache Systems," IEEE Transactions on Computers, Vol. C-27, No. 12, December 1978, 7 pages.
KV	302	PONG, F., et al., "Correctness of a Directory-Based Cache Coherence Protocol: Early Experience." IEEE, 1993, pgs. 37-44.
KV	303	PCT International Search Report, PCT/US01/30359, mailed 10/08/2002, 5 pages.

Examiner Signature	<i>Kevin Verhegg</i>	Date Considered	4/30/03
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